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CONTENTS.

Agriculture--Texas Fever--The Kind of Hogs to Raise--Useful Farm Tools--The same objection. When the blades get rounded they are not effective, and perform no better service than any ordinary harrow. In soils with less grit and more hard lumps, the Acme is no doubt a valuable tool, but a wheel cultivator--a harrow with the teeth set a little slanting back, will serve all the purposes of our farmers fully as well.	1
The Horse--Dates of Trotting Meetings in Michigan--Fruitful Statements--Sense of Smell in a Horse--Horse Gossip.	7
The Farm--What Growing--What Land to Drain--The Clover Seed Midge--A Preservative for Horses--Meeting for Fair or Lean--Be Ready to Learn--Seed-Saving--Club Root of Cabbage--Agricultural Items.	15
Horticulture--Summer Pruning--Experience with Apples--Our Market Abroad for Dried Fruits--The Downy Mildew--The Quince--Mineral Manure for Small Fruit Trees--The Dewberry--Floriculture--Horticultural Notes.	23
Apiculture--Removal of the Queen.	3
Editorial--Wheat--Cereals and Oats--Dairy Products--Wool--Horticulture at the State Fair--Louisiana Sugar Prospects--Spring Wheat; Crop Notes.	4
News Summary--Michigan--General.	4
Foreign--Shepherd's Note--Michigan--General.	5
Miscellaneous--A Country Week Child--The Old-Time Country Dance--The Last Buffalo Hunt--The Knowledge Board--A Remarkable Man--He Lapsed a Bear--An Unexpected Sequel--Revisionary Interest--Canebrake--Food for Vultures--Bank Robber Dunlap--In for Rubber Stamps--Remedial Nose-Blacking--A Mexican Wolf Hunt--A Bit of Revenge--Sam's Hares--Philanthropic Child--Snake Proof Foot-Wear--A Mighty Big Lift--Varieties--Chat.	6
Duty on Wool Tops--Cincinnati's One Hundred Days Festival--Pressing Hay--Straw.	8
Commercial.	8

Agricultural.

TEXAS FEVER.

Results of the Experiments in Progress at the Chicago Stock Yards.

The debated question as to whether Texas cattle, apparently healthy, can communicate a fatal disease to northern cattle which come in contact with them, or pass over ground upon which the Texas have been pastured, is being tested in a practical way at the Chicago stock yards. On July 13th five native cattle were placed in a pen previously occupied by Texas cattle. They appeared to maintain their health and flesh until August 10th, when symptoms of the fever began to manifest. The next day one of them died and another was killed on Friday of last week the remaining three died. An examination of the dead cattle showed the bladder filled with bloody virus, the kidneys highly inflamed and discolored, and slightly gangrenous, and the spleen of the stomach enlarged and inflamed. These are unmistakable signs of Texas or splenic fever. Another experiment was commenced July 20th. Some native cattle were placed in a pen with ten Texas. At the end of a week the Texas were taken out. The object was to see if a week's contact is enough to transmit the infection. The native cattle used in this experiment do not as yet show any signs of the disease. These experiments were undertaken at the instance of the National Cattle Growers' Association, which has appointed a special committee to take charge of the cattle. Of this committee Mr. H. H. Hinds, of Stanton, Montana Co., is chairman, and is giving the work his personal attention.

The results so far reached have induced the proprietors of the stock yards to make a radical change in the manner in which cattle are handled there during the season when this disease prevails. During the summer season all Texas cattle will be kept penned by themselves, and in pens only used for them. It has been clearly proved that a fence is sufficient to prevent the disease from spreading, but that a pasture contaminated by Texas will communicate the disease to northern cattle until the frosts of autumn kill out the germs of disease. Texas cattle themselves are never affected by the disease unless they are taken back to their native home after being in the north six months or more.

There is one other point the committee should investigate thoroughly, and that is whether northern cattle affected with the disease are liable to spread the contagion. It is believed by those who have had experience with the disease that its power to spread ceases with the Texas, and that northern cattle do not spread the disease. In a dispatch from Chicago it is said that the greatest danger is that native stock cattle may contract the disease while kept in Texas pens and after being sold and taken into the country spread the contagion. We do not believe there is any danger to be apprehended from that source, as all experience so far is conclusively against northern cattle spreading the disease.

THE KIND OF HOGS TO RAISE.

We have received from Mr. James Cheesman, of Toronto, Ont., a small pamphlet on "The Swine Industry," devoted largely to a discussion of what is the most profitable hog to raise. The writer dedicates this pamphlet to the "patrons of Ontario's 752 cheese-factories and 50 creameries, and every Canadian farmer who keeps a pig for family pork and bacon." In discussing the question the writer frankly favors the Improved Yorkshire, and he publishes a number of communications from English and Canadian provision dealers to support the plea he makes for this breed. These letters, some of them from leading American packing houses, are of interest as showing the kind of hog now in request by them, and therefore the most salable. Armour & Co., of Chicago, write, under date of June 23d: "For the English market we prefer light thin hogs, averaging 160 to 180 lbs. Age from 6 to 8 months. The shrinkage on these hogs would be 20 to 22 per cent from live to dressed. It is very difficult to get them lean enough, especially at the present time. The average cost for our hogs for the year 1887 was about \$5.25."

That light hogs have commanded the best prices for the past three years is certain, and that the supply is not equal to the demand is also a certainty. The following letter from J. Wheeler Bennett & Co., of London, Eng., also dated June 23d, and addressed to a Toronto packing house, is also of interest: "I most cheerfully accord my co-operation for the development of hog rearing in Canada. There is neither bacon or sides coming to London like the genuine article of Canada. You have the country, the room, and perseverance; and all the farmer wants to be taught is that nothing pays like rearing hogs of the right kind--the bacon class. If he would get a tip-top price he should sell two litters a year. The bacon size pig need only be six months old with proper attention to feeding. You know what England needs: a long lean yet well fed fleshy side, cutting full of lean, and the improved Large Yorkshire breed is the animal for our market."

Messrs. Wm. Davies & Co., of Toronto, Ont., in a letter written in July, say: "We have been actively engaged in the business of packing and curing for export, as well as for home trade, for upwards of 30 years, and therefore should be in a position to express an opinion on what is wanted both abroad and at home. While a few years ago the demand was almost entirely for heavy fat pork, the public taste seems to have changed, and now exclusively for light fleshy pork. We have been preaching for this text for the last ten years, but with only partial success. As a consequence Canadian farmers not thinking attention to this matter with their kind, other countries such as Germany, Denmark, and Ireland are fast driving Canadian and American bacon out of the English market. During the year 1887 we slaughtered 63,457 hogs. Owing to the fact that the Canadian farmer to this department of agriculture more than half of this number were obtained on the other side of the line. When buying hogs in the markets of the United States, we have no difficulty in picking out the exact type of hog that suits our purpose. Of this kind we purchased last year, 33,113. They averaged 176 lbs., and cost laid down here \$5.19 per hundred, owing to the large number regularly on sale, in picking out exactly the class that suits our purpose. Of this kind we purchased last year, 33,113. They averaged 176 lbs., and cost laid down here \$5.19 per hundred, owing to the large number regularly on sale, in picking out exactly the class that suits our purpose. Of this kind we purchased last year, 33,113. They averaged 176 lbs., and cost laid down here \$5.19 per hundred, owing to the large number regularly on sale, in picking out exactly the class that suits our purpose."

We call your attention to the fact that our American purchases, including all charges, cost six to seven cents per hundred less than did our Canadian purchases of prime hogs. Also that outside weights and culls averaged 77 cents per hundred lbs. less than the prime. We find that our Canadian hogs yield 77 per cent only, or one per cent less than American. The reason for this is that our farmers have not got the proper breed of hogs. If they will get the right breed and give them the proper attention, both as to care and feed, in six months from birth they will be just what the market requires, 160 lbs. to 170 lbs., which is more economical to feed, and will yield quite as well, or better, than American hogs do. The difference in cost of feeding the wrong breed over the right one is probably one cent a pound on the pork, so that it is of the utmost importance that the best breed obtainable be chosen at the beginning. Every pound of pork made by the farmer after 170 lbs. per hog means less profit. The time taken to produce a marketable pig governs the profit on pig feeding. Hogs below 160 lbs. mean a relative reduction in the price, and therefore less profit to the farmer."

While we cannot altogether agree with Mr. Cheesman in his opinion that the Large Yorkshire is the only breed that fills all the requirements of a first-rate bacon hog, the information he has gathered in his little pamphlet is of great value to both swine breeders and farmers. It shows that there has been within the past ten or twelve years a radical change in the character of the hogs demanded by consumers. The trade in cut meats has become so important that packers must have the style of hog most suitable for that class of meat. The old style hog, with a weight of 500 or 600 lbs., is becoming a thing of the past, and the bacon hog must take his place. Let breeders and feeders make a note of this fact and arrange to supply the market with the style of hog which will not only meet the views of packers but give the largest financial returns.

John Taylor & Co., pork-packers and cattle dealers of Trenton, N. J., have expended business, short in their accounts \$800,000. The failure was brought on by the great decline in wool, the firm both buying wool and handling from 15,000 to 20,000 sheepskins daily, although the business had been outlived one-half and a number of workmen discharged.

USEFUL FARM TOOLS.

It has become necessary for the farmer to possess himself with a good degree of stamina and fixedness of purpose, to withstand the importunities of salesmen who perambulate the country, selling implements of various kinds for various purposes. There is scarcely a farmer in the country who has not some farm tool leaning in his tool house, not so valuable as the room it occupies, that was purchased on the representation of its merits by a local or traveling dealer, at a price entirely out of proportion to its real value. Every year some old, discarded, impractical principle is worked over, and comes out as a new device to deceive a new lot of customers. A rotary harrow, or a plow with a wheel for a land-side, or a revolving disc mouldboard, or the plow mounted on wheels with a spring seat for the driver--anything that will furnish a talking point to sell the tool. There are some farmers in every community, well known to all the implement dealers, who have a constitutional weakness for possessing the "latest improvements." These men get a good deal of cheap puffing for their "enterprise" by these same dealers, who repeat the praises bestowed upon the new implement, and set their opinions up as an incontrovertible doctrine at every opportunity. Thus the unwary are caught with their name to an order for the new novelty.

A farmer needs tools in numbers, to correspond to the number of teams required to run the farm, as it is large or small. Farming with one team requires two plows--a large and a small size. When three horses are used the large plow will be needed, but for stubble ground, and all soil except silt, I prefer the light plow and two horses. Plows have been perfected so that like sewing machines and printing presses, they all do good work. Their adjustment should be looked into. The wheel should run under the beam, or what is better be loose and interchangeable. The axle certainly should be a separate piece from the standard, so that the line of direction can be trained to suit the course, whichever way the beam is swung. The clevis should have several holes so that the evenness can be hitched high or low to avoid riding the wheel too hard. The jointer should have, besides the up and down, a sideways movement, an adjustable pitch, so that it can be made to clear itself under all circumstances. I seldom see a plow running that does not need adjusting in some of its parts to do good work, or to run easy for the team. I have never yet seen a plow on wheels that could do all that was required of it, and I don't believe one can be constructed that will. For instance, if one wishes to begin in the center of a field, it needs more intelligent force than wheels or a team can furnish, to do a satisfactory job. I take it there is no gain to the farmer in the use of the sulky plow, unless he is a cripple, and no more should be made than is sufficient to supply those unfortunate with one each when called for. No man with a pair of healthy legs should require a team to pull his dead weight around a field, in addition to the heavy draft required to turn the furrow. I have never yet seen a job of sulky plowing, where a walking plow would not have improved it, with considerable less tractive force.

There are many harrows of various patterns, but the real and only use for a harrow is to pulverize and level the surface, and not to work it deep. This is better done with some other tool. A harrow for cleared fields should have small and many teeth, and cover at least ten feet of space, and one such for a farm is sufficient. Twenty acres per day can be easily compassed with one team. Such a harrow will last many years and need no repairs. For rough land, having part stones, roots, or small stumps, no tool equals some form of the spring tooth harrow. There is no holding fast to stop the team; as soon as a tooth lifts go of the top of the obstruction, it snaps into the ground again, and works independently of the others. But for old fields, some form of wheel cultivator is needed at times, to work up the surface and mix it--a kind of work no harrow is capable of doing as well. The shape of the teeth, and the way they are set to work in the soil serves to keep them sharp and in good working order, the running gear is above the grit of the soil, and one will last many years. I have one that has been used every year and lent considerable, for more than twenty years, and the second set of teeth is good for five years more of service. For corn a two horse riding cultivator is essential. The rider here can direct some necessary operations with his feet, and is elevated to a position of observation more favorable than when walking behind; beside there is the obstruction of the row where he should walk. I believe the fine tooth, one horse cultivator the only other tool needed, and this only when the corn gets too high for the two horses and the double cultivator. From the experience of two dry seasons I believe the two-shovel plow an abomination in a corn field. It throws the land into unpleasant ridges, with nothing in its favor to relieve the disagreeable feature, even if it is not sometimes very harmful, especially in a dry time.

The disc harrow is a splendid implement to use on occasion, but they are a short lived tool in Michigan soils, on account of all the running or revolving parts being so low that they grind out fast, working continually in the grit. The Acme harrow has

the same objection. When the blades get rounded they are not effective, and perform no better service than any ordinary harrow. In soils with less grit and more hard lumps, the Acme is no doubt a valuable tool, but a wheel cultivator--a harrow with the teeth set a little slanting back, will serve all the purposes of our farmers fully as well.

In this connection I may as well state what I have promised to tell, about my surface cultivation of corn stubble for oats. The experiment is not what I was led to expect from the experience related by others, and what I saw myself last year. The oats did not tiller out as well as where I plowed the ground, and they were uneven in appearance. On parts of the field where manure had been placed for the corn crop, the oats were rank and good height, but at no time during the season did they bear as good color as the plowed field adjoining, and they will not yield so well, although the plowed field was in poorer condition for a crop. I have not altogether given up surface cultivation on account of this one failure, but shall experiment further with fall crops, and I may say that I still consider the wheel cultivator all that is desired for that purpose, although if the disc harrow were longer lived I should prefer that.

The binder has become an important implement in the work of the farm, although it may not be necessary for every farmer to own one, for the capacity for business within the period of harvest is so great, that the grain of two average farms can be economically cut by one, and this is probably what binders are really doing, judging the country at large by what I know of their performance here. To recapitulate, then, every farmer must have two plows, one harrow, a two horse corn cultivator, which may serve in the capacity of working the ground for wheat and oats, a single cultivator and a binder or an interest in one. These are essential and good farming can be done with only these.

TEXAS FEVER IN ILLINOIS.

Recent Experience of John G. Imboden with the Disease--His Experience Favors the Theory that Northern Cattle do not Spread the Disease.

From the Breeder's Gazette, August 15. On the 15th day of last June a stranger by the name of Whiteside asked me if I could pasture some cattle for him. He said he shipped them from Edwardsville, Ill. I told him I didn't care to pasture his cattle, but would accommodate him a few days. When I saw the cattle in the pasture I thought they looked like Tennessee cattle, and I asked Whiteside if they were bought at Edwardsville, and he replied that they were. There were forty-three head, all aged--a mixed bunch of cows, bulls, steers, heifers, and calves. I had some native cattle on this pasture, but turned them on another pasture before the Whiteside cattle were put in. I pastured these cattle just four days, and when they went out I immediately turned my natives back on the pasture--a blue-grass pasture of about thirty-two acres, with running water and shade.

There were twenty head of these natives--two cows, two five-month-old steers calves that were sucking one of the cows, four two-year-old heifers, one two-year-old bull, and eleven yearling heifers. On June 28 I turned in three yearling steers, two yearling heifers, and one cow, making a total of twenty-six natives. These cattle did well till after the middle of July, when I noticed they were losing flesh very fast.

On Aug. 1 there was one dead cow, and the other cattle were all ailing; Aug. 3 four more were dead. I now suspected the trouble, and went to see Dr. J. F. Reid, Assistant State Veterinarian, who is located here. He was absent from the city, and did not see the cattle until the morning of Aug. 4, when the doctor, Tom C. Ponting, and myself went out to the pasture. I now had lost nine head; the first cow that died was turned in last. As soon as Mr. Ponting saw the cattle he said it was Texas fever. We examined several of the dead cattle and found them covered with ticks, as were all the others. Upon opening the cattle we found the kidneys affected, the spleen or melt very much enlarged and black, and the bladder filled with bloody-looking urine. Dr. Reid said that there was no question about the nature of the disease, and pronounced it splenic fever, or what is commonly known as Texas fever.

These cattle contracted the fever from the infection left on the pasture by the Whiteside cattle, which we learned were shipped from West Point, Miss.

On the afternoon of Aug. 4 I drenched the remaining seventeen cattle with salts and salt. Eight of these seventeen cattle were dead before daylight of the next morning, and one more died Aug. 7, making a total of eighteen out of twenty-six. The remaining eight, including the two calves, are yet sick, and some will probably die. The cows were about the first to die.

There are now and were at the time the Whiteside cattle were on the pasture, cattle on three sides of this pasture with only a wire and board fence between them. These cattle are all right with the exception of one cow lost by Tom Boardman, whose pasture joins mine on the west. This cow died Aug. 9, with the fever, as the symptoms before and the examination after death proved. No ticks were discovered on this cow or on any of his other cattle in the same pasture.

Aug. 7 Dr. Reid and myself went to the west side of this (Macon) county to find Mr. Whiteside and his cattle. We went to Allen Taber, who is a brother-in-law of Whiteside's, and found thirty of the cattle that were on my pasture. They were on Mr. Taber's farm on pasture with twenty-five native cattle, and they were then all right. The remaining thirteen cattle were found in the neighborhood and Dr. Reid quarantined all when found. There were also on Mr. Taber's farm thirty-two steers which Mr. Whiteside had brought there about Aug. 1, and sold to Mr. Taber Aug. 6. These cattle were also shipped direct from West Point, Miss. Upon examination we found these cattle covered with ticks. Mr. Taber had not exposed his native cattle to this last bunch and will not, as Dr. Reid quarantined the whole lot, to remain so until released by the State Board of Live-Stock Commissioners. The man Whiteside has not yet been found.

My cattle did not come in contact with these Mississippi cattle, yet sickened and died when pastured after them. Cattle that came in contact with these Mississippi cattle at a wire fence remain healthy. If there is anything in the "tick theory" why do not native cattle that are covered with ticks leave the infection for other natives? Do we see evil results from Texas horses, that come here covered with ticks, when pastured with cattle, and do these southern cattle lose their infection when taken from one pasture to another? These same Mississippi cattle infected none of Mr. Taber's native cattle, having been with them since they left my pasture. We may yet hear of great losses of cattle in the western part of this country through the seventy-five Mississippi cattle that are now there quarantined.

JOHN G. IMBODEN.

[Mr. Imboden's experience is directly in line with that of other northern cattlemen who have been unfortunate enough to have the disease introduced among their cattle. It appears to be well established that the disease does not spread from northern cattle which are attacked; that a fence between Texas and northern cattle will prevent the latter from contagion, and that pastures become infected and will spread the disease to northern cattle placed upon them.]

Another point we call attention to is this: The only case in which cattle suffering from the disease have been completely restored to health was the bunch of steers purchased in this city by J. H. Thompson, of Grand Blanc. He sent for Dr. Jennings, who after a thorough investigation, prescribed for the animals sick, and saved every one, although in at least one instance the animal was not expected to live more than a few hours. Mr. Imboden's experience with purgative medicines is similar to that of every one who has tried such remedies--they simply bring death sooner by weakening the animal. Dr. Jennings adopted a sustaining treatment, with strong tonics, and was successful in the first case which had ever come under his care.--ED. FARMER.

COMMERCIAL FERTILIZERS.

PONTIAC, Aug. 10, 1893.

To the Editor of the Michigan Farmer. I saw in your paper of August 4th an account of the use, by W. L. Chamberlain, of superphosphate on wheat, and the results noted by him. He gave the brand he used, but he would advise any one using superphosphate to have the brand he uses analyzed. If this particular brand he used is, as he stated, why is it not safe to use it and be to no more trouble about it? I can not see why not? or is some good and more of it good for nothing? How much does it cost per ton? He didn't say how he used it, but I presume with a fertilizer drill. Now I am thinking of trying some on one field of wheat, and if you will answer my inquiry I will be thankful for the favor.

B. FULLER.

Our correspondent hardly got Mr. Chamberlain's idea. He gave the name of the brand he used, but said, "Other brands, by other companies, are good; but no one should buy except on guaranteed analysis." That is, nearly all manufacturers print on their goods an analysis which they guarantee their goods will sustain, making themselves liable for any shortage in the mineral value of the elements it contains. We have two fertilizer factories in this city, and our correspondent need not be afraid to use the product of either. Superphosphate retails at from \$30 to \$35 per ton, generally based upon the value of its constituents. It is sown with a drill, and the rule generally followed is to sow from 200 to 300 lbs. per acre. Applying a ton to seven acres (nearly 300 lbs. per acre) would bring the cost up to \$5 per acre, would be an application of 300 lbs. per acre very beneficial, but of course if your land is run down it would be better to use the larger amount.

The Benton Harbor Palladium says that Mr. S. G. Antislade, who has made an extensive investigation of apple orchards in that vicinity, finds the situation much more unfavorable for a crop than had been anticipated even by those who knew the yield would be light. He thinks there will not be more than one-fourth as many apples as last year. Many trees usually fruitful are absolutely bare of apples this year, and even the late stand-bys, the Baldwins, are light. The late frosts in the spring did the bad business and those orchards that were the most protected by sheltering hills or windbreakers show the most fruit.

WEST LIBERTY FARMERS' CLUB.

The Club met at the West Liberty church Wednesday evening, August 1st, and was called to order by the President, Mr. M. Reed.

Discussion opened by W. H. Cornett, subject: "Are agricultural interests and the farmer properly represented in legislative bodies in this country?" He claimed they were not because our legislators were nearly all lawyers, and they worked for the moneyed interests. He spoke at length of the hard times, and that the American farmer was the worst off of any class of people in the world. But very few farms that were not heavily mortgaged.

He was answered by Mr. James Crispell, who claimed that if women would quit following the fashions and would spin and weave the cloth to clothe their families; and the farmer go back to the scythe and sickle, and triangular drag, even if wheat was only forty cents a bushel his farm would not be sold at the court house door.

Messrs. E. Crum, M. Reed and I. Crum also joined in the discussion.

After a short reading by Mrs. Bidwell, a short story followed on a household topic.

The meeting adjourned until the first Wednesday of September.

MRS. ELIZABETH CRUM, Sec.

Hints to Judges at Fairs.

Prof. Brown, late of the Ontario Agricultural College, gives the following excellent suggestions in the Canadian Live Stock Journal:

1. Ask for pedigrees often than has been the practice. It checks age and shows wider interest.
2. It is well to walk males round the ring frequently, to test the important points of carriage, temper, and perhaps helps to detect unsoundness.
3. We should not forget "temper" in males particularly, because it is transmissible.
4. Place high value on quality for every thing; have quality whatever else may be; gentlemen, remember quality.
5. Do not neglect size and weight, according to age.
6. It is well to be cautious of influence by high condition in breeding stock, though allowable in some classes than in others.
7. We are apt to be carried away by width of chest, as against proper corresponding depth, particularly in cows of some classes.
8. I think too much stress is often placed on "top" and "under line," especially in dairy breeds, where large paunch and some irregular outline, both in male and female, are points of merit.
9. Judge the bull, when required, as much as a cow for milk.
10. We do not sufficiently allow for the character of skin as evidence of milking properties.
11. Make no scruples in discouraging a purposely overburdened udder; remember you are appointed as teachers.
12. The coat of hair, or of wool, is generally undervalued, especially in males. It is good evidence of character and constitution.
13. Discourage a wedgy muzzle and narrow nostrils anywhere.
14. Keep a sharp eye on indications of disease, and call in the service of the official veterinarian even when symptoms may be too far off for him.
15. Neat, well-balanced horns are desirable, but not essential.
16. When judging milch cows do not be concerned about the new name "nervous development" given to the old "wedge shape," for with a few exceptional points it means the same thing.
17. We do not handle sheep sufficiently for frame, wool quality, and skin color.
18. There are too many ewe-headed rams in the country, therefore encourage the bold head as the most valuable stock getter.
19. While color of individual animals, where color is not a part of the standard of a breed, is a matter of comparative indifference in judging, I think we should attach some importance to the uniform coloring of any "herd," and of a "bull" and to many of his get."
20. The exact marking of those breeds that profess such should be cautiously balanced with other things, and not overvalued.
21. There should be public understanding on the question of what constitutes a typical animal of each class, or we find most of the admirers of, say, a breeding bred invariably preferring all the possible fullness of frame which is not characteristic of the average of the kind. Hence much of our judging is upon a theoretical or fancied model. For example, if the crops of the Durham, if the thighs of the Hereford, and if the rumps of the Aberdeen-Poll be pronounced defects with the majority of each, why not admit the facts and allow the judges to act accordingly?
22. You will not be not just ready to judge by points on paper.
23. If you are asked to act on "the best of any class," or on "sweetstakes," do not do so unless equally up in them all. Your reputation is worth a great deal.
24. If any breed claims the "general purpose" it is desirable to make very exact valuation of "properties" for public guidance.
25. If asked for the directors to give your reasons publicly for your decisions, take pleasure in doing so, the honor is greater to you; better make some enemies than retard national progress.
26. I think we do not, observe that all judging is still unfinished as a complete guide to any one desiring to purchase an animal, because "record," and "performance," and "pedigree," are not yet a part of the system. The world moves slowly in some practical directions.

A TELEGRAM FROM DECATUR, THIS STATE.

dated August 9th, says that Dr. J. F. Reid, Assistant State Veterinarian, has quarantined sixty-two head of native and southern cattle in Niantic township, Van Buren county. The cattle have the Texas fever, which was introduced by cattle brought there in June from Mississippi.

Cheese in England.

The London Grocer publishes the following list of reasons for the present depressed condition of the cheese market in that country:

1. It is a fact--the make so far in England is the biggest ever known, and, in the opinion of competent judges, 20 per cent. over average.
2. It is a fact--in consequence of the damp cold season it has not ripened, and less has been sold from the makers than usual.
3. It is a fact--a larger quantity of ordinary make old cheese has been sold, and is now selling, 20 to 30 per cent. under the high figures of last autumn. This does not apply to finest cheddar, Cheshire or Stilton, these qualities never being a drug on the market, or varying in price more than the shilling of the Devon or Scotch, or the saddle of the famous Southdown.
4. It is a fact--when vegetables are cheap, the retail demand for cheese is small. It is scarcely necessary to mention that only last year, when the trade was so brisk, potatoes were selling at treble their present price.
5. It is a fact--during the hot months (which unfortunately we have not had this year) the consumption of cheese is by far the greatest.
6. It is a fact--we have a fresh supply from New Zealand arriving at the time when the purveyors have usually supplied themselves with stock, and no more than forty more factories are to be started there this coming season.
7. It is a fact--the recent "bear" action in America, by selling forward at low figures, has rebounded in an absurd "bull" movement.
8. It is a notorious fact--the idiotic "bull" rise of last year resulted in innumerable bankruptcies, and loss of hundreds of thousands to honest, upright firms.
9. It is a fact--the agricultural interest is so depressed, wages are reduced, and laborers (who are the greatest consumers) cannot pay more than 6d per pound for their cheese.

Stock Notes.

Mr. IRA H. BUTTERFIELD, of Lapeer, has sold two Holstein-Friesian bulls for export to South America. T. F. Stham is the party who will ship them.

The Smith Brothers, of Exile, Clinton Co., will exhibit their herd of Jerseys at the State Fair, Flint, Grand Rapids and Lansing. They generally manage to get a goodly share of the fibbons, too.

Mr. C. S. BINGHAM, of Vernon, Shawansee Co., has arrived at New York from England, where he went to select a party of Shropshire sheep for his flock. He brought over a nice bunch selected from the best flocks in that country. The flocks represented are those of T. & S. Bradburn, Messrs. Evans, A. S. Gibson, S. Hudson, R. M. Knowles, H. J. Sheldon and others. With this importation Mr. Bingham will have a flock of 300 head, imported and American bred.

Mr. J. F. RUNDLE, of Birmingham, Oakland County, has notice of the arrival of 44 head of Shropshires, at New York, per steamer St. Ronan, and all in good shape. They come from the flock of Mr. T. S. Min-ton, from whom Mr. Rundel has had some very fine sheep. He will now have a flock of over 500 head, all imported or bred direct from imported stock. The Shropshires are making their way in this State, and generally giving good satisfaction.

SMITH BROTHERS, of Eagle, Clinton Co., report the following recent sales from their herd of Jerseys:

To W. S. Albertson, Pontiac, Oakland Co., the cow Ethel of Clover Lawn 38996, and her heifer calf Beauty Medores, by Medores. Ethel traces to Mercury, Alpha, Europa, Duke of Darlington, and other noted animals of the breed. Her calf has the blood of Le Brocq's Prize, Mattin (7 lbs. 11 oz.), and Medrena (18 lbs.). To Mrs. Annette M. Haines, of Sebawa, Iowa Co., cow Princess of the Realm 19761, dam Little Pile (14 lbs. 5 oz.). To Mrs. J. G. Grimsby, Greenwood, Ill., Nellie Cora Medores 47590, and Rita Field 49690, both two year old heifers, and fine animals.

The last two were ordered by mail, the purchaser not seeing them until delivered, and were entirely satisfactory.

Mr. H. W. DARLING, of Orland, Jackson Co., reports the following recent sales from his herd of Shorthorns:

To A. A. Kennedy, River Junction, the bull Rian Duke, by Sharon Duke 71765, dam Lily of the Meadow by Aldrie Prince 34 58750, and tracing to Imp. Amelia by Plato (3433). To Hon. A. M. Cook, Harlem, Dakota, bull Senator by Sharon Duke of Bath 67440, dam Belle of Bunker Hill by Galt Duke 9th 37077, tracing to Imp. April Morn by Capt. Balco (12545).

To same party, Third Belle of Tompkins, by Sharon Duke 71765, dam 3d Belle of Homer by Gloster 19650, tracing to Imp. April Morn by Capt. Balco (12545).

To same, Ann F., by Sharon Duke 71765, dam Rosa Taylor 5th by Lord Chatham 4th 58842, tracing to Imp. Amelia by Plato (3433). To same, Adda H., by Sharon Duke 71765, dam 1st Rose of Canfield by M. T. Treble Duke 34001, dam Rosebud of Canfield by Aldrie Royal 18553, tracing to Imp. Clo-patra by Plato (496).

Mr. Darling has received word from Dakota that the cattle stood the journey well and reached there in good shape. He has had a good demand for bulls, selling all he had six months old.

A SUBSCRIBER at Mayville asks for the publication of a description of White Russian wheat. We do not know anything of the variety named. Perhaps some of our readers may be better informed and give the inquirer what he asks for.

address **PETER HENDERSON** # 37
and 37 Courtland St., New York. m17 461

STATE AND DISTRICT FAIRS.

NAME OF SOCIETY.	HELD AT	DATE.	SECRETARY.	POST-OFFICE.
Michigan State Agricultural Society	Jackson.	September 10 to 13.	C. Sterling.	Monroe.
Michigan State Fair Association	Lansing.	Sept. 24 to 28.	H. B. Baker.	Lansing.
Michigan State Fair Association	Ann Arbor.	Sept. 24 to 28.	Pratt Joslyn.	Ypsilanti.
Michigan State Fair Association	Flint.	Sept. 24 to 28.	Geo. F. Lewis.	Flint.
Michigan State Fair Association	Grand Rapids.	Sept. 24 to 28.	James Cook.	Grand Rapids.
Michigan State Fair Association	Monterey.	Sept. 24 to 28.	H. C. Davidson.	Monterey.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	R. C. Grier.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	Alex. Heron.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	Chas. F. Mills.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	R. G. Mason.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	John H. Martin.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	Robert W. Furness.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	J. S. Woodward.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	N. Bonham.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	D. W. Sells.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	T. W. Holloway.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	Sydney Smith.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	A. R. Venables.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	George Cook.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	T. J. Newton.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	Walter Wade.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	John H. Martin.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	Chas. G. Towle.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	A. C. Austin.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	Arthur C. Hill.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	J. H. Hill.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	N. Van Hook.	Indianapolis.
Michigan State Fair Association	Indianapolis.	Sept. 24 to 28.	Geo. McElroy.	Indianapolis.

MICHIGAN COUNTY FAIRS.

Alcona Ag. Society.	Armad.	Oct. 2 to 5.	Theo. Dahlman.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	Chas. F. Lewis.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	James Cook.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	H. C. Davidson.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	R. C. Grier.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	Alex. Heron.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	Chas. F. Mills.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	R. G. Mason.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	John H. Martin.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	Robert W. Furness.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	J. S. Woodward.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	N. Bonham.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	D. W. Sells.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	T. W. Holloway.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	Sydney Smith.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	A. R. Venables.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	George Cook.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	T. J. Newton.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	Walter Wade.	Armad.
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Alcona Ag. Society.	Armad.	Oct. 2 to 5.	A. C. Austin.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	Arthur C. Hill.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	J. H. Hill.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	N. Van Hook.	Armad.
Alcona Ag. Society.	Armad.	Oct. 2 to 5.	Geo. McElroy.	Armad.

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WILL PLACE ON SALE APRIL 2d,
TWENTY STALLIONS
SPECIALLY BREEDERS FOR THE SPRING TRADE.

Have a few each year that a number of my customers can't conveniently buy until late in the season, and it is to accommodate these that I have this year made a reserve of TWENTY stallions, old enough for service, which will be placed on sale April 2d, being my determination to control any importations that I can offer purchasers a first-class horse any day in the year.

All Animals Sold Guaranteed Breeders on trial satisfactory to purchaser.
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MANUFACTURERS OF
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Three courses of study. Thoroughness in every department. Building up the character and the mind. Water from S. Clair river, with all advantages in music and in the English language.

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That Pure Salt adds its fine flavor to all food seasoned with it. It preserves and antiseptic qualities keep meats, butter, cheese, etc., fresh and pure. It is the healthiest and most economical. It is especially recommended for the sick and the aged. It is the healthiest and most economical. It is especially recommended for the sick and the aged.

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Highly bred Scotch Collie Shepherd Puppies. Satisfaction guaranteed. Address
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JULY 23-24

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Best road out of the city. No railroad to cross. Twenty-four miles from the city. Twenty acres of the above in year and apple orchards. The finest in Michigan. Will not more than ten per cent. on purchase price. Clear title. Address, Lock Box 25, Detroit, Michigan.
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Jersey Bulls for Sale at Farmers' Prices
DROPPED DEC. 14, 1888. Nov. 22, 1887, and Jan. 21, 1888. All large, strong and vigorous. Solid corn and from the best of butter stock on both sides. Guaranteed to suit the purchaser. For particulars address
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Kendallville, Ind.
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DIRECTORY

MICHIGAN BREEDERS

CATTLE - Shorthorns.

A. J. COOK, Orono, breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, A. J. Cook, Agricultural College, for prices.
JULY 25-26

A. K. BLISS, Swan Creek stock farm, A. K. bliss, breeder of Shorthorn cattle. Stock for sale. Correspondence solicited. Address, A. K. Bliss, Swan Creek, Mich.
JULY 25-26

A. J. CHANDLER, breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, A. J. Chandler, Swan Creek, Mich.
JULY 25-26

D. DEGRAND, Highland, Oakland Co., A. K. bliss, breeder of Shorthorn cattle. Stock for sale. Correspondence solicited. Address, D. Degrand, Highland, Mich.
JULY 25-26

A. J. LEBLANC, Rose Corners, Oakland Co., A. K. bliss, breeder of Shorthorn cattle. Stock for sale. Correspondence solicited. Address, A. J. Leblanc, Rose Corners, Mich.
JULY 25-26

A. J. COOK, Brooklyn, Jackson Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, A. J. Cook, Brooklyn, Mich.
JULY 25-26

ARTHUR ANDERSON, Montclair, Allegan Co., breeder of Shorthorn cattle. Stock for sale. Correspondence solicited. Address, Arthur Anderson, Montclair, Mich.
JULY 25-26

BENJ. F. BATHURST, Orono, breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, Benj. F. Bathurst, Orono, Mich.
JULY 25-26

F. MOORE, St. Clair, breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, F. Moore, St. Clair, Mich.
JULY 25-26

G. LUCAS & SON, Grand, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, G. Lucas & Son, Grand, Mich.
JULY 25-26

CHARLES FISKE, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, Charles Fiske, Lakeland, Mich.
JULY 25-26

G. S. ALLEN & SON, breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, G. S. Allen & Son, Lakeland, Mich.
JULY 25-26

C. R. BACKUS, Springdale, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, C. R. Backus, Springdale, Mich.
JULY 25-26

S. BURNETT & SON, breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, S. Burnett & Son, Springdale, Mich.
JULY 25-26

F. A. BRADEN, Victoria, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, F. A. Braden, Victoria, Mich.
JULY 25-26

GEORGE W. STUART, Grand, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, George W. Stuart, Grand, Mich.
JULY 25-26

HENRY LESLIE, Oakland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, Henry Leslie, Oakland, Mich.
JULY 25-26

H. H. HINDS, Stanton, Montclair, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, H. H. Hinds, Stanton, Mich.
JULY 25-26

JOHN C. SHARP, "Hillside Farm," Jackson Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, John C. Sharp, Hillside, Mich.
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JAMES MOORE, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, James Moore, Lakeland, Mich.
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JOHN MEYER, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, John Meyer, Lakeland, Mich.
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J. E. FISKE & SON, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, J. E. Fiske & Son, Lakeland, Mich.
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M. DAVIDSON, Tecomum, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, M. Davidson, Tecomum, Mich.
JULY 25-26

N. HAYES, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, N. Hayes, Lakeland, Mich.
JULY 25-26

O. SNOW & SON, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, O. Snow & Son, Lakeland, Mich.
JULY 25-26

S. CHAFFIN, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, S. Chaffin, Lakeland, Mich.
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S. ELLIWOOD, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, S. Elliwood, Lakeland, Mich.
JULY 25-26

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Maple, Meadow Brook herd of Jersey cattle. Stock of the highest quality and of the best strains. Houdan chickens.
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JULY 25-26

EDWIN PHILLIPS, Maple Place Farm, Potomac, Md., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, Edwin Phillips, Potomac, Md.
JULY 25-26

REVERDE STOKK FARM, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, Reverde Stokk Farm, Lakeland, Mich.
JULY 25-26

THOMAS POSTER, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, Thomas Poster, Lakeland, Mich.
JULY 25-26

A. A. WOOD, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, A. A. Wood, Lakeland, Mich.
JULY 25-26

C. E. LOOKWOOD, Washington, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, C. E. Lookwood, Washington, Mich.
JULY 25-26

BURLINGAME & SON, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, Burlingame & Son, Lakeland, Mich.
JULY 25-26

F. M. DEAN, Maple Avenue Stock Farm, Potomac, Md., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, F. M. Dean, Potomac, Md.
JULY 25-26

J. A. GIBNEY, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, J. A. Gibney, Lakeland, Mich.
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JAMES McKEE & SON, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, James McKeen & Son, Lakeland, Mich.
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J. O. THOMPSON, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, J. O. Thompson, Lakeland, Mich.
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J. EVARTS SMITH, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, J. Evarts Smith, Lakeland, Mich.
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J. S. WOOD, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, J. S. Wood, Lakeland, Mich.
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R. W. MILLS, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, R. W. Mills, Lakeland, Mich.
JULY 25-26

R. HATHAWAY, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, R. Hathaway, Lakeland, Mich.
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S. C. LOMBARD, Lakeland, Branch Co., breeder of Shorthorn cattle. Good families represented. All stock recorded. Correspondence solicited. Address, S. C. Lombard, Lakeland, Mich.
JULY 25-26

ALL INTENDING PURCHASERS of Shorthorn cattle, please note that the following families are represented in our herd: Oxford Vanquish, Young Phyllis, Adelaide, etc.

AMERICAN MERINOS.
Sheep of approved breeding. Individual Merino a specialty. Personal inspection invited. All stock recorded and guaranteed as represented.
JULY 25-26

BREEDING AND MERIT COMBINED
Will E. Boyden,
DELHI MILLS, - MICH.
The following families are represented in our herd: Oxford Vanquish, Young Phyllis, Adelaide, etc.

Shorthorn Cattle
The following families are represented in our herd: Oxford Vanquish, Young Phyllis, Adelaide, etc.

Shorthorn Bulls for Sale.
Sired by Proud Duke of Fairview 90720, out of Young Mary, Lady Lady, etc. All stock recorded and guaranteed as represented. Address, W. E. Boyden, Delhi Mills, Mich.

Plain View Stock Farm.
ON SALE - SHROPSHIRE.
A number just imported from noted breeders in England, recorded and young.

HOLSTEIN-FRIESIANS.
Yemen. Houdan and Pel families represented. Choice young stock from imported cows.

200 PURE BRED FOWLS.
Pure bred, pure bred, pure bred. All stock recorded and guaranteed as represented. Address, W. E. Boyden, Delhi Mills, Mich.

FOR SALE
ON REASONABLE TERMS.
A DAUGHTER OF LOUIS NAPOLEON.
Four years old and an easy keeper.
For further particulars address
E. C. MOORE,
Lakeland, Mich.
JULY 24

PERCHERON & French Cattle.
All imported stock, selected in France by the firm. Home-bred stock the progeny of selected sires and dams of the finest forms and most approved breeding. We will make it to your advantage to deal with us. Price low and terms to suit purchasers. Stock guaranteed. Catalogue free by mail. SAVAGE & FARMER, Detroit, Mich.

Shorthorn Bulls for Sale.
Barrington, Kirklington, Victoria, Dutchess, and other highly bred sires. Good stock to head any herd. Prices and terms to suit the purchaser. Address
C. F. MOORE,
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JULY 24

SEVERAL registered Jersey Heifers and cows.
All of the highest quality and of the best strains. All stock recorded and guaranteed as represented. Address, W. E. Boyden, Delhi Mills, Mich.

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Armad, breeder of Poland China swine. Breeding stock of choice families. All stock recorded and guaranteed as represented. Address, True Brothers, Armad, Mich.

Chester-Whites.
A. SHAWING, Lyons, Iowa Co., breeder and importer of Chester White swine. Oxford Down sheep and Shorthorn cattle. All stock recorded. Correspondence solicited and personal inspection invited. Reduced rates by express answered.

W. W. TUBBS, Delhi Mills, Washington Co., stock for sale. Correspondence promptly answered.

HIGHINS, W. A., Elm Lane Stock Farm, Plymouth Rock poultry.

Small Yorkshires.
W. M. HILBERT, Bath, Clinton Co., Mich., breeder of Small Yorkshires pigs of best blood. All stock recorded. All breeding stock recorded. Stock for sale.

L. W. & O. BARNES,
"LAKE VIEW" STOCK FARM,
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SHORT HORNS
FOR SALE.
Bulls, heifers, cows and calves of choice milk strains and sired by high-bred bulls. For particulars address
B. J. BIDWELL,
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Moond Spring Breeding Farm,
J. W. JIBBARD, - ROPIRIOR,
Successor to C. Hibbard & Son,
Bennington, Shiawassee County, Mich.

BERKSHIRE SWINE
of the most fashionable families. Our herd has won more prizes at the leading fairs of the State than any other herd in the past four years. Pairs in pairs and price not ask.

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The following families are represented in our herd: Oxford Vanquish, Young Phyllis, Adelaide, etc.

AMERICAN MERINOS.
Sheep of approved breeding. Individual Merino a specialty. Personal inspection invited. All stock recorded and guaranteed as represented.
JULY 25-26

BREEDING AND MERIT COMBINED
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Plain View Stock Farm.
ON SALE - SHROPSHIRE.
A

